

California Air Resources Board
Research Division

**Innovative Clean Air Technologies (ICAT)
2008 Grant Program**

INSTRUCTIONS FOR APPLICATION

April 2008

TABLE OF CONTENTS

	<u>Page</u>
Introduction	1
Part 1. Overview and Eligibility	
Eligible Technologies	2
Eligible Projects	3
Level of Funding	4
Required Matching Funds	4
Commercialization	4
Proprietary Information and Intellectual Property	4
2008 ICAT Program Schedule	5
Part 2. Application Instructions	
Application	5
Full Proposal	5
Content and Organization	6
Title Page	7
Statement of Intent & Abstract	7
Technology and Innovation	7
Emission Benefit In California	8
Commercialization/Business Plan	8
Economic Benefit to California	10
Benefit to ARB's Programs	10
Proposed Project	10
Project Budget	12
Project Contributions and Level of Effort	13
Project Schedule	13
Project Team, Qualifications, and Resources	13
Financial Status of Applicant and Partners	14
Attachments	14
Part 3. Provisions for Confidential Information	
How ARB Handles Confidential Information	15
Description of Confidential Information	15
Requesting Confidentiality	16

Part 4. Additional Submittals For Conditionally Accepted Projects

Letters of Commitment	17
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Part 5. Selection Criteria

Procedure	17
Evaluation of Financial Capability	17
Evaluation of Technical/Commercial/Economic Merit	17

6. Grant Awards and Project Monitoring

Award Provisions	19
Disbursements	19
Reporting	20
Meetings	20
Project Monitoring	21

*The following elements are in separate downloadable documents, and can be found at:
www.arb.ca.gov/research/icat/icat.htm.*

Appendices

- I. Standard Grant Agreement
- II. Guidelines for Final ICAT Reports
- III. ARB's Treatment of Confidential Information
- IV. Air Pollution Regulatory Structure

Pre-Proposal Form

Forms

- 1 -- Statement of Intent & Abstract
- 2 -- Financial Information
- 3 -- Budget Tables (with Instructions)
- 4 -- Project Contributions and Level of Effort
- 5 -- Partners' In-Kind Contributions
- 6 -- Confidentiality Provision

INTRODUCTION

About ICAT

The Innovative Clean Air Technologies (ICAT) program of the California Air Resources Board (ARB) provides grants to help innovative air-pollution-control technologies move through the demonstration stage toward commercial application. The objective is to advance such technologies toward commercial application in California. For 2008, ICAT will focus on technologies that can be used to reduce emissions of greenhouse gases within California.

ICAT focuses on co-funding of demonstrations; it is not intended to support basic R&D, and it does not support marketing activities. ICAT will pay up to 50% of the costs (primarily labor and materials) of an approved demonstration project. ICAT does not support research or marketing projects. ICAT will not support demonstration projects for technologies that are already on the market. ICAT will only provide reimbursement based on approved costs incurred during the project term. ICAT is not a small business-assistance program; the size of the applicant is not considered. However, each grantee must be financially capable of supporting its project and commercializing its innovation.

Part 1, below, explains ICAT and eligibility more fully.

Grant Applications and Their Evaluation

This document contains instructions for submitting ICAT grant applications. The necessary forms are in separate downloadable documents available at:
www.arb.ca.gov/research/icat/icat.htm.

Part 2, below, contains instructions for preparing and submitting a “pre-proposal”, a full proposal, and other required elements of the application. Part 3 discusses ARB’s handling of confidential information that may be in an ICAT proposal. Part 4 gives instructions for further submittals by applicants who receive conditional approval for ICAT funding. Part 5 explains how ARB evaluates proposals and presents detailed evaluation criteria. Part 6 describes the management of grants. In addition, various appendices are under a separate cover or can be located at:
www.arb.ca.gov/research/icat/icat.htm.

ICAT uses a multiple step process. Briefly those steps are:

- Solicitation of preproposals
- Receipt and review of preproposals
- Invitation of select full proposals
- Receipt and review of full proposals
- Selection of full proposals and submittal to Board for approval
- Completion of the grant package for approved projects

An application will be initiated upon ARB's receipt of a *pre-proposal* by May 30, 2008. Upon review, all applicants whose pre-proposals indicate conformity with ICAT criteria will then be invited to submit full proposals. (Only invited full proposals will be accepted: uninvited full proposals will be destroyed.)

Each full proposal prepared in accordance with the instructions in Part 2 will be reviewed for the technical merits of the innovation and the proposed project, the resources and financial capability of the applicant, the commercial potentials of the technology, the utility of the technology and project to ARB's programs, and the applicant's business plan. ARB staff will select the best-qualified projects for grants.

The available money may not suffice to fund all the qualifying proposals. Conversely, not all available money will be granted if the ARB does not receive sufficient proposals that it finds meritorious according to the standards set forth in this document.

The ARB staff's grant selections must be formally approved by the Air Resources Board (our governing board) to finalize grantee selection.

Part 1 -- OVERVIEW OF ICAT AND ELIGIBILITY

Eligible Technologies

- The ICAT program for 2008 can support significant innovations in technology that prevent or control or otherwise reduce emissions of greenhouse gases (GHGs) from any source in California. The greenhouse gases of interest are:
 - carbon dioxide (CO₂),
 - methane (CH₄),
 - nitrous oxide (N₂O),
 - hydrofluorocarbons (HFCs),
 - perfluorocarbons (PFCs),
 - sulfur hexafluoride (SF₆) and
 - black carbon (BC).
- ICAT can support technologies applicable to any stationary, mobile, indoor, agricultural or consumer product emission source.

The technology must be, or must include, a substantial innovation that provides at least one of the following:

1. a new emission-control or emission-prevention technology
2. a substantial improvement in the control provided by an existing technology
3. a reduction of the cost or other impediment to using a control technology
4. a substantial increase in the scope of application of a control or prevention technology (e.g., to a new type of emission source)

The technological innovation should represent a substantial technical advance, rather than being a predictable, incremental engineering development. Additionally, the applicant must show that the technology helps achieve ARB's programmatic goals.

The technological innovation involved in an ICAT project must have a clear potential for commercialization. Therefore, it must have an identifiable potential market and reasonable economics. The technology must be useful in California for control or prevention of greenhouse gas emissions. Its commercialization should provide economic benefits to California (as described in Part 2.)

Eligible Projects

As noted previously, ICAT for 2008 will focus on technologies for control of greenhouse gas emissions.

ICAT funds pilot demonstrations, the construction and deployment of prototypes, and practical demonstrations of technologies with the potential to be commercialized. It does *not* fund basic research, design-only projects, extensive engineering development (“R&D”), production, or marketing.

Projects that effectively call for “pump-priming” sales of items will not be considered. (A “pump-priming” project would be a project that calls for ICAT to buy large numbers of an item in effort to reduce unit costs by artificially raising production quantities outside of conventional market forces. Please recall that ICAT funds cannot be used to purchase equipment.)

Field applications as demonstrations of practical utility are required. Also, the closer a technology is to being field-ready at the *outset* of an ICAT project, without already being available on the market, the more highly it is preferred; accordingly, technologies that are already being sold on the market will be ranked significantly lower than those technologies that have not yet been marketed. The early stages of a project can involve the design or laboratory trials of a device or system to be deployed; however, the last stages of the project should be a field application/demonstration, and those stages should receive most of the ICAT funding: ICAT funding should not be front-loaded in the project budget.

ICAT can pay for the materials and construction of the hardware needed for a demonstration. However, *ICAT cannot pay for purchasing equipment* (finished durable hardware). Also, ICAT will not pay for overhead or other indirect expenses.

An ICAT project must be on the critical path toward commercialization of the innovation, and it must advance the development of the innovation and not duplicate previous work.

A project must be proposed in specific terms-- including explicit technical goals, definition of scope (e.g., size and duration), activities and methods to achieve the goals, and a site for the project. Since the project is what ARB “buys” with ICAT funds, the nature and scope of the project must be clear to ARB’s reviewers.

Level of Funding

There is no absolute limit to the amount of an ICAT grant. However, ARB seeks to spend ICAT funds cost-effectively, obtaining the best potential benefit from each dollar spent. Historically, most grants have been less than \$250,000 (average \$200,000), which has allowed us to support several meritorious projects every year. But we also have funded projects in amounts ranging from under \$50,000 to over \$400,000. Grant funds can be spread over three fiscal years. Regardless, ARB reserves the right to allocate funds in amounts and spread over the number of projects it deems appropriate to its needs and requirements.

Required Matching Funds

The ICAT program will fund no more than the *lesser* of:

- 50 percent of any project's total budgeted cost
- 50 percent of the actual project cost

The remainder of budgeted costs and all cost overruns must be met with funds or services secured by the grantee. If the applicant proposes to fund by itself less than 50 percent of the budget, there must be commitments of contributions from partners, as either cash or in-kind services (defined as services or facilities provided to the grantee without compensation).

As part of the 50 percent of the project's cost not covered by ICAT, the applicant must commit to fund at least 10 percent of the total budget with its own cash (exclusive of providing labor and indirect expenses). The ARB staff may consider waiver of this 10 percent requirement for applicants such as research institutions and non-profit organizations. This is discussed in more detail in the 'Project Contributions and Level of Effort' section of Part 2.

An applicant and its partners must demonstrate technical and fiscal resources sufficient to meet their cost commitment and complete the proposed project.

Commercialization

Either the applicant or its committed business associates must be able, and express willingness, to commercialize the technology upon project completion.

Proprietary Information and Intellectual Property

ARB can keep confidential only certain types of information provided in proposals or developed in ICAT projects. (See Part 3 about our procedures for handling trade secrets.) However, data that we receive on actual emissions to the air (e.g., from a project host's operations) cannot be protected from disclosure.

ARB relinquishes all rights to technologies developed in ICAT projects.

2008 ICAT Program Schedule (subject to change)

- Solicitation released April 21, 2008
- Deadline for receipt of pre-proposals May 30, 2008
- Invitations of full proposals mid-July, 2008
- Full proposals received by ARB late August, 2008
- Conditional selection of grantees mid-October, 2008
- Board's approval of awards mid-December, 2008
- Budgets/details due from selected applicants late January, 2008
- Award effective date late February, 2009

Part 2 -- APPLICATION INSTRUCTIONS

Application

All applicants must submit pre-proposals via the Pre-Proposal Form that is downloaded separately. ARB will invite full proposals only from applicants who submit qualifying pre-proposals (uninvited full proposals will not be considered).

We must receive your pre-proposal by May 30, 2008, as an e-mail attachment openable by MS Word® 2003. DO NOT include confidential information (pre-proposals containing information marked as confidential will not be reviewed). The e-mail address is icat@arb.ca.gov.

Full Proposals

If, after we review your pre-proposal, we invite you to submit a full proposal, the invitation will state the deadline for its receipt. If you are invited to send a full proposal, please provide by mail 15 hardcopies of your proposal, and one electronic copy via email. The mailing address for the hardcopies is:

ICAT Proposal for 2008
California Air Resources Board
Research Division
1001 I Street
Sacramento, CA 95814

The email address for the electronic copy is icat@arb.ca.gov.

It is essential that your full proposal provide information that satisfies the requirements stated in underlined type in this Part 2. Especially important guidance on the required information is given in *italic type*. For further guidance, you should also read Part 5 on

selection criteria. Some sections below include example formats that should be effective for certain narrative elements of the proposal.

If you wish to include confidential information, you must separate it from the other elements of the proposal, clearly label every page as confidential, and send it in five copies. *ARB will not be responsible for protecting information that is not clearly labeled “confidential”.* Also, sign and include Form 6 with your full proposal if you send confidential information. *No proposal containing information labeled “confidential” will be reviewed if Form 6 is missing.*

Please ensure the completeness and clarity of your full proposal, and the accuracy of the numerical information. The ICAT review schedule allows insufficient time for staff to solicit missing or clarifying information. *The quality and completeness of a full proposal, including presence or lack of arithmetic errors, will be viewed as indicative of the applicant’s ability to complete a project in a timely and quality fashion.*

Please enclose with your full proposal any documents (or pertinent excerpts) that you cite in support of performance claims in your proposal. However, do *not* include materials that are not needed to supply the information requested in these instructions. We will not review patent documents, complex engineering drawings and specifications, or promotional materials.

Content and Organization

A full proposal contains both narrative sections and forms. They should be arranged in the following order. The remaining sections of this part provide guidance on the narrative sections. The blank forms are under a separate cover.

- Title page
- Table of Content
- Statement of Intent & Abstract (Form 1, signed)
- Technology and Innovation (narrative section)
- Emission Benefit in California (narrative section)
- Commercialization/Business Plan (narrative section)
- Economic Benefit for California (narrative section)
- Benefit to ARB’s Program (narrative section)
- Project Proposal (narrative section)
- Project Budget (Form 3)
- Project Contributions & Level of Effort (Form 4)
- Project Schedule (table or graphic)
- Project Team, Qualifications, and Resources (narrative section)
- Applicant’s Financial Status (including Form 2)

- Confidentiality Form (if needed; Form 6)
- Letters of Commitment and Support (may be submitted after conditional acceptance – see Part 4.)

Title Page

The title page should show the project's title and identify the applicant (company), the lead person, and any partners. (Partners are persons or organizations that will contribute resources to the project via cash or in-kind services. We appreciate titles no longer than one line.)

Statement of Intent & Abstract (Form 1)

Please attach your Form 1, unsigned, to an e-mail to icat@arb.ca.gov as well as include it, signed, in the printed proposal. The file should be usable with Microsoft Word 2003[®].

Provide an applicant's e-mail address that you will monitor regularly. Certain critical communications from ICAT will be made by e-mail.

"Time to commercialize" (item 7) means time after completion of the ICAT project.

"Proposed project funding -- Total" (item 8) must equal all expenses for the project, including the value of your labor and in-kind services from others, as may later be provided in a budget. (See the instructions for Form 3.)

The abstract (item 10) should briefly summarize, in lay terms, the narrative sections of the full proposal. It should not include information that is not in the rest of the proposal. *Do not include graphics in Form 1.*

Technology and Innovation

This section of the proposal must identify and describe the technological innovation that is the basis for the ICAT proposal. If the innovation is a component of a device or process, describe the device or process, also. The descriptions should be understandable to reviewers who are not expert in the field. Cite (but do not include) patents. *Exactly what is innovative, how it is innovative, and how it works must be made clear.*

Explain the technical advantages of the innovation. Compare the scope of applicability and the performance of the technology to those of competing technologies. *Document performance claims.*

Estimate the costs (or savings) of the innovation to the user, with derivations and documentation that are reasonable given the stage of development of your technology. The costs should be compared to those of competing technologies, which also should be documented. If the innovation is more costly, its superiority must be made evident.

This section should *present evidence that the technology will perform as intended* in the proposed ICAT project. The section should clearly show the relationship of the system to be deployed or tested in the ICAT project to the system or components whose performance has been documented.

Emission Benefit in California

This section must describe the potential for emission control in California.

State the means by which the innovation would reduce the subject emissions, either directly or indirectly. Recognized means include:

- providing a new emission-control or emission-prevention technology
- substantially improving the control provided by an existing technology
- reducing the cost or other impediment to using a control or prevention technology or to achieving ARB's programmatic goals
- increasing the scope of application of a control or prevention technology

Describe and enumerate the emission sources or other sites or situations in California for which a successful ICAT project would be relevant. *State why owners of emission sources in California would find the technology useful and cost-effective.* (This may involve discussing regulatory requirements.)

State and support the emission effect per unit of the technology put into use. To the extent practical, *estimate the emission reductions* (e.g., tons per year) that could be achieved in California from applying the technology. Estimates must be consistent with the marketing information in the next section and with ARB's greenhouse gas emission inventory information (which can be found at <http://www.arb.ca.gov/cc/inventory/inventory.htm>)

Finally, explain any environmental benefits or impacts other than those involving the climate change benefits of greenhouse gas emission reductions (e.g, criteria pollutant reductions, ground water impacts). If producing or using the innovation would create any new emissions or waste streams, describe these effects and their practical consequences (e.g., need for control or mitigation).

Commercialization/Business Plan

This element of the proposal will receive separate review by business experts. In subject matter, it may be redundant with other elements of your proposal. You may provide an existing business plan to serve as this section as long as your submittal provides the following information.

1. About the Company (and the commercial partner, if applicable)
 - Business description -- type of company.
 - Summarize experience in bringing products to market.

2. Product

- Technical highlights of the innovative technology.
- Is the technology new or is it the next generation of an existing product? Are there any patents, copyright or other elements unique to the innovation?
- Describe any applications other than the one that would be demonstrated in the ICAT project.

3. Relationship to Regulatory Structure

- Describe the utility of the innovative technology to companies that must meet air-pollution regulations in California. (See Appendix IV.)

4. Market Analysis

- Define your target market(s). *Explain why the targeted industries would buy the innovation after a successful ICAT project.* Both markets within and outside of California should be considered.
- Describe the recent and expected growths of the targeted industries.
- Identify the specific market niche for the proposed technology. Describe its size and potential for growth.
- Describe any specific barriers to entry or expansion.

5. Competition

- Identify the primary competitors.
- How do their technologies differ from the innovative technology? Why is the new technology better?
- Compare costs between the innovative technology and competing technologies. Does the innovative technology have a competitive advantage in capital or life-cycle cost?
- Provide a cash flow analysis to show the projected return on investment (ROI) and payback period of the proposed technology. The analysis should include all relevant costs and assumptions.

6. Financial Projections

- Estimate the amount of capital needed to take the product to market. Identify the stages of funding requirements.
- Show the sources of funding (internal and/or external sources).
- Provide pro-forma income projections (profit & loss statements and cash flow). Include three-year projections and break-even analysis.
- State the assumptions upon which the projections are based.

7. Key Players

- Describe business alliances and partnerships that will be involved in commercialization.
- Describe the role of each entity. Provide documentation of interest or intent to participate in production, financing, marketing, or other development.

Economic Benefit for California

This section must describe the potential economic benefits to California of a commercialized innovation. A technology may be economically beneficial if:

- It would be made by a California company or be engineered and installed (anywhere) by a California company, or
- Its installation in California would create installation (construction) and maintenance jobs or other types of job, or
- It would allow increased throughput or activity in a California industrial process (e.g., a process that is limited by permit conditions on the mass rate of emissions), or
- It would promote use of an under-used economic resource in California, or
- It would lead to increased tax revenue to the State or local government. If possible, identify California companies that would produce, sell, engineer, or install the innovation. You may provide quantitative estimates of new economic activities in California (e.g., number of jobs, sales, etc.), *if* you include supportable assumptions and calculations.

Benefit to ARB's Program

At this point, you may offer information on the relationship of your technology or proposed project to ARB's efforts to reduce greenhouse gas emissions. Consult <http://www.arb.ca.gov> for descriptions of ARB's program and the topics currently receiving emphasis.

Proposed Project

This section must propose a specific ICAT project. An ICAT project consists of a set of tasks that are all necessary to prepare for and conduct a practical demonstration of the innovative technology. It must not include tasks that are not needed to take the technology from its current status through such a demonstration. Some research & development can be included if it is needed to prepare a technology for a demonstration. However, ICAT is intended to fund demonstrations and, only if necessary, design work immediately antecedent to demonstrations, rather than fund R&D.

The proposal should state specific technical goals for the project and methods to achieve them. Explain the importance of these goals to commercializing the technology. Identify the data to be collected, the conditions under which they will be collected, and the test methods.

Lay out specific tasks in enough detail for reviewers to understand the nature and scope of the work. Each task should be marked by an identifiable progress milestone. Such milestones are important since they mark disbursement points for grant payments. Indicate which tasks are to be funded by ICAT. Indicate who (applicant, subcontractor, or in-kind partner) will perform each task. Please present this information in a tabular format.

Identify the host site for the project, and state whether or not the owner has committed to the project. Describe how the innovative technology would be used at the site. Include basic design information (e.g., size or capacity). If there is no specific site yet, describe the intended type of site and how you will recruit sites for the project.

ABBREVIATED EXAMPLE OF AN EFFECTIVE FORMAT:

The proposed project would demonstrate 99.9% control of PFCs in airflow from equipment used in semiconductor manufacturing. The demonstration site is located at _____. The control device will be sized at 1,000 scfm total airflow. PFCs will be measured immediately upstream and downstream from the control device, using EPA method XX. Data will be taken continuously over three months during periods when production is at least 90% of design level. Percent control will be computed as a daily average and compared to the 99.9% goal. Related parameters, such as flow temperature, pressure, flow rate, etc., will be monitored continuously.

<u>Task</u>	<u>Milestone</u>	<u>Performed by</u>	<u>Duration</u>	<u>ICAT Support</u>
Site review and design	Specs sent to fabricator	Applicant	3 months	no
Fabrication	Delivery to site	Subcontractor	1 month	partial
Installation	System shakedown	Applicant	2 months	partial
Test period	3 months of data	Applicant	3 months	partial
Data reduction	Final report	Applicant	2 months	no

Project Budget

Include Form 3 in your proposal. The budget should not include expenditures for overhead or other indirect charges, or for equipment. ICAT expenditures should be biased towards the actual demonstration tasks later in the project - at the very least, the applicant should ensure that ICAT funds are spent no faster than the matching funds.

The applicant, and each subcontractor who will provide services worth over \$50,000 or over 25% of the total project budget, must each complete a Form 3 set to be included with the proposal.

The contributions by a partner may be in-kind. If so, Form 5 must be completed.

Form 3 includes detailed instructions. Please be reminded that the requested ICAT funds cannot exceed half of the total project cost, and that applicants are required to provide matching funds (cash) equal to at least 10% of the budgeted total project cost. (As discussed above, the ARB will consider waiving this 10% cash requirement for applicants such as universities, non-profit institutions, and other organizations for whom it is apparent that compliance with the requirement would be impossible due to the nature of the applicant's business.) The decision to waive this requirement will be made on a case-by-case basis considering the nature of the applicant's business and source of revenue.

The costs of these activities are *not* eligible for ICAT funding:

- building, repairing, or remodeling permanent structures
- general company operations
- legal work
- basic research or design, except for a small component of the ICAT project that is essential to the success of the project
- feasibility studies, market research, financial analysis, paper studies, liability analyses, patent analyses
- commercialization, full-scale production, deficit financing, or marketing
- contingencies
- profits for applicant or partners
- equipment (See definition in Form 3)
- overhead and other indirect costs

Regardless of which tasks ICAT will fund, *the total ICAT funds actually disbursed by any time cannot exceed half the total expenses of the project by that time.*

Documentation of total project expenses will be required with all grant disbursement requests.

Allow for travel to the ARB in Sacramento, California, for a kick-off meeting at the beginning of the project and seminar presentation at the end of the project. International travel cannot be funded by ICAT.

Project Contributions and Level of Effort

Include Form 4 in your proposal. If a grant is made, the values for “ICAT” in the “Contributions” table will be the maximum allowable payments. Normally, applicants are required to provide matching funds (cash) equal to at least 10 percent of the budgeted total project cost. ARB will consider waiving this 10 percent cash requirement for such applicants as universities, non-profit institutions, and other organizations for whom it is apparent that satisfying this requirement would be impossible due to the nature of the applicant’s business. The decision to waive this requirement will be made on case-by-case basis considering the nature of the applicant’s business and source of revenue. Applicants who believe they might qualify for waiver of this requirement are asked to contact the ARB ICAT staff. For purposes of meeting the 10 percent requirement, “Cash” means the grantee’s outlays that can be documented by invoices or receipts from suppliers. It excludes the value of labor, benefits, in-kind services, and overhead.

A partner is any entity who will contribute resources to the project without compensation.

For purposes of the ICAT grant, an entity that will be compensated is a *subcontractor*, not a partner (although one entity can have both roles). The value of services by a subcontractor will appear in the budget as a project cost; the cash support in Form 4 (by the grantee or a funding partner) must be sufficient to cover the subcontractors’ charges.

Project Schedule

Provide both a tabular and a graphic display of task duration, task start and completion dates, and measurable milestones for all project tasks. The schedule should preferably show elapsed time from the project’s initiation. The preferred format for the graphic display is a basic Gantt chart.

Please be reminded that each grant disbursing point should correspond with a milestone completion.

Project Team, Qualifications, and Resources

Present the qualifications of the project team that will conduct the proposed work. Provide brief resumes of all key individuals, with emphasis on experience with the ICAT technology and the kind of work involved in the project.

Present the personnel structure of the project, identifying individuals and *their roles in the project*.

Describe the technical resources of the applicant and subcontractors, and any partners providing in-kind support.

Financial Status of Applicant and Project Partners

The proposal must give evidence that the applicant and its major partners will each be financially capable of providing the project support (cash) indicated on Form 4. Your proposal will advance to technical review only if the information supplied to ARB supports financial capability.

For (i) the applicant and (ii) each project partner who will provide more than 25% of the non-ICAT funding or more than \$50,000 (either cash or in-kind service), the minimum data requirements are:

- Provide Form 2, Company Statistical Information (not required of government agencies).
- Describe the company's operations and types of products.
- Describe the company's prior investments directly related to the project.
- Describe any legal relationships between the applicant and its project partners.
- Provide copies of any currently filed Articles of Incorporation or Partnership Agreement and Fictitious Name Statement.
- Provide the previous two year-end financial statements, including income statements, balance sheets, and cash flow statements. Individuals may provide personal financial statements.

In lieu of financial statements, you may provide your most recent two years of federal tax returns. Public-sector applicants may attach copies of audited financial statements or the applicable portions of approved agency budgets showing funds to pay costs assigned in Form 4.

You may also provide any other useful documentation of financial capability. For R&D companies that have minimal revenues and small liquid assets, *it is advisable to provide a record of investments in the company and commitments for future investments*.

Financial statements should be prepared in accordance with generally accepted accounting principles, including all necessary explanatory notes. We prefer financial statements that have been prepared, audited, or reviewed by a certified public accountant because they carry the greatest credibility.

Attachments

You *may* attach letters of support from potential customers and other entities. You *may* attach letters of commitment from project partners, and from host sites if they have committed to participating in the project, though these letters may also be submitted after you have received notice of conditional acceptance (see Part 4, below).

Part 3 -- CONFIDENTIAL INFORMATION

How ARB Handles Confidential Information

We prefer that you do not include confidential information (trade secrets) in your ICAT proposal. However, if you find it necessary to include such information, we will protect it as confidential information to the degree allowed by the ARB regulations on information disclosure (Appendix III), in conformance with State law. The ARB will not disclose data identified by an applicant as confidential, except as required by law. However, because of the legal requirements for disclosure of some kinds of information, applicants are advised that the ARB cannot provide an absolute guarantee that all material designated as confidential will not be disclosed to the public. Also, the State cannot accept legal liability for such disclosure. If such restrictions are not acceptable to you, **DO NOT INCLUDE CONFIDENTIAL MATERIAL IN YOUR PROPOSAL.**

To recommend a proposal to the Board, at a public meeting, the ARB staff must describe in basic terms the technology and its proposed use. Therefore, *ARB cannot accept a proposal for which confidentiality is requested in entirety or in which the nature of the innovation is confidential.*

Description of Confidential Information

The ARB will regard information as confidential if it fits one of the following descriptions of confidential information.

- Technical data: recorded information, regardless of form or characteristic, of a scientific or technical nature. The data may be graphic or pictorial information in media such as drawings or photographs, test specifications or related performance or design type documents or computer software. Computer software may include computer programs, data bases and documentation. Further examples of technical data include research and engineering data, engineering drawings and associated lists, specifications, engineering calculations, standards, process sheets, manuals, technical reports, catalog item identification, and related information. However, Government Code Section 6254.7 states that all information, analyses, plans or specifications that disclose the nature, extent, quantity, or degree of air contaminants or other pollution which any article, machine, equipment, or other contrivance will produce, which any state or local agency requires the applicant to provide before the applicant builds, erects, alters, replaces, operates, sells, rents, or uses such article, etc., are public records. All air monitoring and emission data are public records.
- Trade secret: any formula, plan, pattern, process, tool, mechanism, compound, procedure, production data, or compilation of information which is not patented and which is known only to certain individuals with a commercial concern who are using it to fabricate, produce, or compound an article of trade or a service having commercial value and which gives its user an opportunity to obtain a business advantage over competitors who do not know or use it.
- Information developed for the Commercialization Plan

- Any information that is “patent pending”

If you request confidential treatment of information of the types described above and there is a third-party request for its disclosure, you must show that the information was under your control prior to the commencement of the proposed ICAT project. Also, it must have been produced by you (or by your contractor at your expense), and it must be reasonably demonstrated as confidential by reason of copyright, patent, or the trade-secret doctrines in effect at the time of its provision to ARB.

The ARB *will not protect* the following types of information as confidential:

- ICAT budget information
- names of your proposed subcontractors and matching-fund participants
- approved patents
- emission data

Requesting Confidentiality

Submit any request for confidentiality per California Code of Regulations, Title 17, Section 91000 et seq., Disclosure of Public Records (Appendix III). Any information claimed to be a trade secret or otherwise exempt from disclosure under the Public Records Act or other provisions of law must be labeled "confidential". All confidential information must be marked with the word “CONFIDENTIAL” on each page front and back, and submitted in a *separate* document and accompanied by Form 6. Do not include any confidential information in the main proposal.

All proposals are reviewed by reviewers outside the ARB as well as by ARB staff. These reviewers are from public universities in California and government agencies, all of which can protect confidential information according to confidentiality agreements with ARB. To allow this external review, please complete and return Form 6 with your proposal if you submit confidential information. In the proposal, at the point where the information would appear if it were not confidential, please indicate its existence under the separate cover.

Please provide the name, address, and telephone number of the individual to be contacted if we receive a request for disclosure of the information claimed as confidential.

Part 4 -- ADDITIONAL SUBMITTALS FOR CONDITIONALLY ACCEPTED PROJECTS

If, after staff review of your full proposal, we conditionally accept your project for recommendation to the Board, we will ask you to submit the following information. Then, if satisfactory information is provided according to instructions, we will recommend your project to our Board for funding.

Letters of Commitment

You must provide letters committing funds from project partners and a letter(s) of intent from the host site(s).

Part 5 -- SELECTION CRITERIA

Procedure

Staff of the ARB's Research Division (RD) will review all pre-proposals for conformity with the statements in Part 1 about eligible technologies and projects, consistency with principles of science and engineering, size of requested grants, feasibility of the projects, and applicability to ARB's program. Applicants submitting pre-proposals meeting these criteria will be invited to submit full proposals.

RD staff will evaluate full proposals for technical merit, qualifications of personnel, commercialization potential/business plan, financial capability, potential for successful project completion, and value to ARB's program. The RD staff may receive advice from the staff of other ARB divisions, other state agencies, university faculty or other individuals who are qualified to review the proposals.

First, we will screen all the full proposals for responsiveness to these instructions and conformity to the eligibility standards. The quality of the proposal, except for minor deficiencies that can be remedied with a brief communication, will be considered strongly indicative of the quality of work the applicant will accomplish during the project. Proposals of low quality will be deemed non-responsive or inadequate and will be removed from further consideration.

We will then rank the remaining proposals on technical merit and commercial/economic potential. Next, ARB's senior management may adjust the ranking according to the utilities of the technologies and projects to ARB's programs. Then, funding will be conditionally allotted according to the ranking and the availability of ICAT funds. Projects acceptably ranked will receive conditional acceptance.

If you receive our conditional acceptance, you must reconfirm commitments of funding, and then submit a letter of intent from the host site(s). Upon receipt of these materials, the ARB staff will then recommend your project to the Board for funding.

Evaluation of Financial Capability

The reviewers will judge whether or not the *submitted data* indicate that the applicant and its partners are able to provide the non-ICAT portions of the project funding.

Evaluation of Technical/Commercial/Economic Merit

Reviewers will consider how well each proposal displays the desired attributes stated in the following "bullets". Essential attributes are in italic type. In aggregate, the attributes

under “Technology and Innovation” and “Quality of the Project” are of higher importance than those in the other two categories. However, a clear lack of *any* essential attribute will *disqualify* a proposal regardless of its other attributes.

1. Technology and Innovation

- *The project involves a new or improved element of technology that should provide better performance than does current technology in the same applications.*
- *The innovation is not yet commercially applied in the US in the target application.*
- The innovation and the technology containing it are clearly described.
- *The technical and economic feasibility of the innovation, in the form to be deployed in the ICAT project, are supported by evidence.* The attributes of concern include emission control (or otherwise enabling emission reductions), cost competitiveness, and operational characteristics that would be satisfactory to the intended market.
- The innovation and the system incorporating it are substantially field-ready.
- If there are competing technologies, the applicant’s technology is competitive when cost and performance are considered together.
- Use of the innovation will not aggravate any environmental problem.

2. Potential to Reduce Air Pollution

- *The innovation provides at least one of the following:*
 - a new control (or prevention) technology
 - improved control by an existing technology
 - greater scope of application (to more source types) for an existing technology
 - improved economics or practicality of a desired emission-control technology
- *The improvement provided by the innovation is significant.*
- *California has significant emission sources for which a successful ICAT project will show the innovation to be capable of reducing or avoiding emissions.*

3. Quality of the Project

- *The proposal initially submitted to ICAT is written and presented in a professional and complete package with minimal errors and omissions. (However, highly commercialized packages, e.g., glossy paper, multi-color printing, fancy bindings and covers, are discouraged.)*
- *The stage of development in the project is appropriate* (e.g., a field pilot, a commercial prototype, or an actual application; a project can involve minimal application-specific design work and limited development work if the final task is a substantial demonstration.)
- *Tasks are clearly defined* and are all needed to deploy a prototype or perform a demonstration.
- There are specific technical goals for the project and evidence that they are achievable.

- Most of the funds requested from ICAT are for field testing of a prototype device or the field demonstration of a technology.
- The requested ICAT funds are commensurate with the potential benefits of the project and affordable when the needs of other worthy projects are considered.
- A host site is identified.
- There are no obvious obstacles to project completion.
- Appropriate test methods would be used.
- It is preferred that the project be conducted, and the demonstration sites be located, in California.
- *The applicant and subcontractors have appropriate experience and resources for the project.*

4. Commercial & Economic Potential; Business Plan

- *The technology would provide at least one of the economic benefits described in Part 2, "Economic Benefit to California."*
- *Potential buyers are identifiable and have a reason to buy the technology (including need to respond to regulatory requirements).*
- The applicant or its commercial partners have sufficient experience and resources to commercialize the technology.
- There are no regulatory, economic, or legal obstacles for application of the technology.
- The qualities of the target market and the income potential indicate that commercialization should be economically viable.

Part 6 -- GRANT AWARDS AND PROJECT MONITORING

Details on many of the following topics are presented in Appendix I.

Award Provisions

The ARB staff's recommendations to fund an ICAT project must be approved by the ARB's governing board via a resolution that describes the work to be conducted during the project and establishes the associated budget. The description is taken from the proposal document, which becomes part of the grant document created after the Board's resolution approval. The ARB will require satisfactory performance of work as described in the Board's resolution and grant document.

Disbursements

Funds are paid out in response to disbursement requests from the grantee. (A disbursement request is analogous to an invoice under a contract.) Requests are accepted upon the *achievement of specified milestones* related to the tasks defined in the work (project) plan, not more frequently than quarterly. Grant disbursement requests must be made using the template attached to the grant document. ARB may withhold disbursements if staff deems that progress is unsatisfactory, pending resolution of the issue.

Each request must itemize expenses incurred during the period, identifying both ICAT expenses and matching-fund expenses, and providing adequate supporting documentation (receipts, itemization of hours worked, etc.). Each item in a request must correspond to an item in the project budget.

During a project, the cumulative dispersed ICAT funds can never exceed the cumulative expended matching funds. There is a ten-percent withhold of each disbursement pending completion of the project and acceptance of a final report.

Reporting

Disbursement requests must be accompanied by progress reports covering the periods to which the requests apply. Progress reports must be made at least once every three months, regardless of disbursement requests, and use the progress report template included with the grant document. Each progress report must contain, in a prescribed format:

- a summary of work completed since the last progress report, noting progress toward completion of tasks in the work plan
- a statement of work expected to be completed by the next progress report
- a notification of problems encountered and an assessment of their effects on the project's outcome

A publication-quality final report is required at the end of the project. At a bare minimum, it must include:

- a short public summary, written for a college-educated lay audience, that briefly describes the ICAT technology and the goals, methods, and results of the project.
- a more detailed report main body that explains the function of the technology and supports the reported results in the context of the project's goals. Although not intended for general distribution, this report will not be held confidential; *therefore, it must not contain proprietary detail about the technology.* (See Appendix II regarding trade secrets.)
- an update on the commercialization prospects

Meetings

Before work begins, a kick-off meeting will be held in Sacramento between the grantee and the ARB project management staff. The purpose of this meeting will be to discuss the project plan, details of task performance, the project schedule, any changes to the project team, and any issues that may need resolution before ICAT-funded work begins. Meetings to discuss progress will be held at least quarterly, with telephone conference calls being acceptable upon approval of the ARB grant manager. At least one simultaneous on-site visit by the grantee and the ARB grant manager should be held during the course of the project. A final meeting will be held in Sacramento at the conclusion of the project to review the results and discuss the status of

commercialization plans, and for the grantee to present a seminar on the completed project.

Project Monitoring

Any change in budget allocations, re-definition of deliverables, or extension of the project schedule must be approved in advance by the ARB project manager. The project manager may visit the site of the project to evaluate its progress. After the ICAT project, the ARB project manager may request information on the progress of the innovation toward commercialization.

Once a grant is in place, the ARB will not request additions to the work to be done or other project scope change under the grant. We will not terminate a grant because of minor technical difficulties or minor under-accomplishment of stated project objectives. However, ARB reserves the right to terminate a grant if it is obvious that the objectives cannot be approached or that the grantee or its subcontractors cannot perform the required work.